BALOVNEV, V.I., kand. tekhn. nauk; ZASOV, I.A.; KARABAN, Yu.L., kand. tekhn. nauk; PEROV, I.F., kand. tekhn. nauk, retsenzent

[Machines for the maintenance and repair of highways and airports; design and construction] Mashiny dlia soderzhaniia i remonta avtomobil'nykh dorog i aerodromov; konstruktsiia i osnovy rascheta. Moskva, Mashinostroenie, 1964. 294 p. (MIRA 17:10)

PROCESSES AND PROPERTIES INDEX

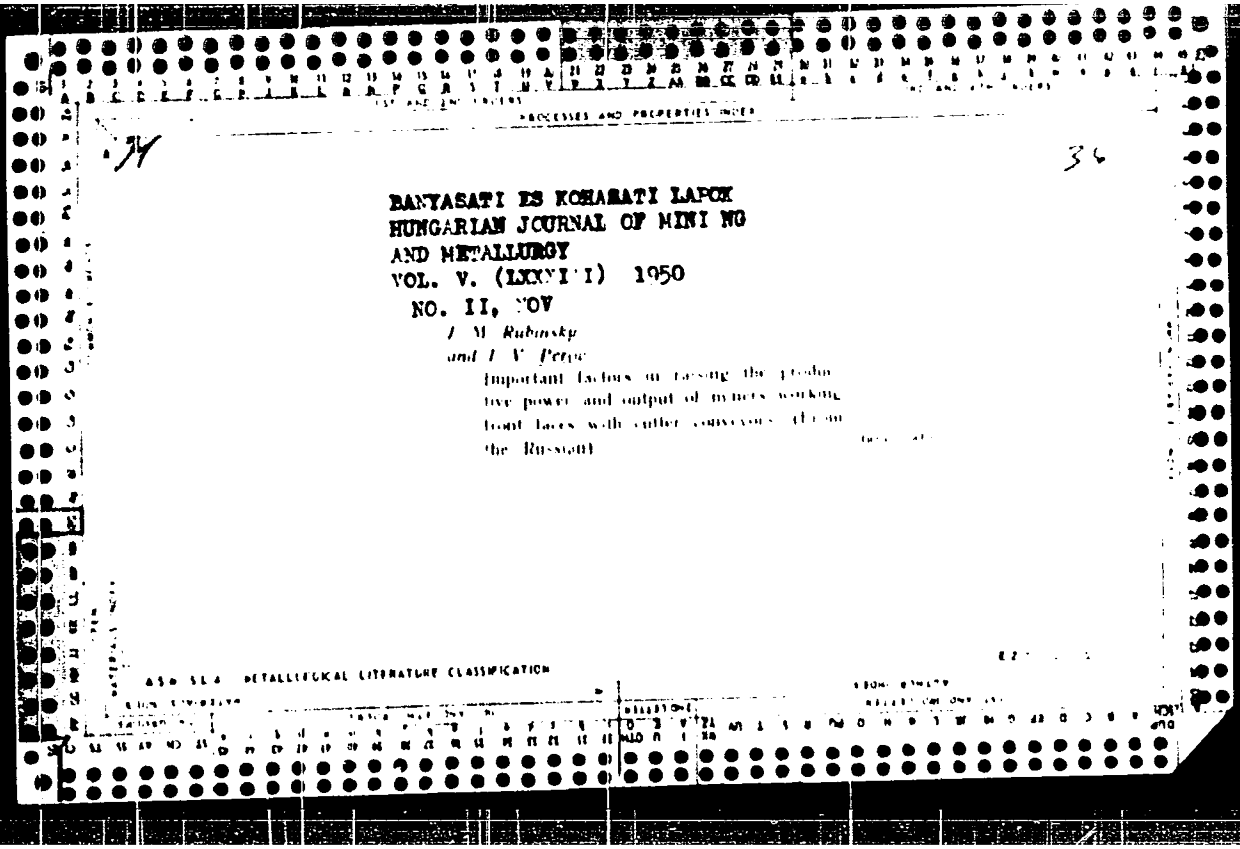
PEROV, I.S

CA

10

Continuous process for the production of thiodiphenylamine. V. A. Grom, I. S. Perov, T. N. Maslov, and G. P. Chernetsov. U.S.S.R. 68,317, Apr. 30, 1947. Ph_2NH and S are heated to fusion, then to 140-50° to dehydrate the mixt., cooled to 120-25°, anhyd. $AlCl_3$ added, and the resulting mixt. continuously fed into the app. within which is maintained a temp. of 185-200°. M. Hosch

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



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34

BANYASATI ES KOHASATI LAPOK
HUNGARIAN JOURNAL OF MINING
AND METALLURGY
VOL. V. (LXXXIII) 1950
NO. 11, NOV

I. M. Rubinsky
and I. V. Petrov
Important factors in raising the productive power and output of miners working front faces with cutter conveyors (from the Russian)

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

PEROV, I. V. and ARKHANGEL'SKIY, A. S.

"Achievements of the Donbass Combine in Stepping up Mine Production," Mekhanizatsiya Trudoyemkikh i Tyazhelykh Rabot, No 8, 1950.

Translation, W-14824, 6 Nov 50

[illegible]ROV, I. T., Eng.

Coal-mining Machinery

Effective work of combines in drifts of the trust Stalinugol' (Stalino coal). Mekh. trud. rab. 6 No. 4, 1952.

9. Monthly List of Russian Accessions, Library of Congress, December 1952, Uncl.

PEROV, I. V.

USSR/Mining

Card 1/1

Authors : Perov, I. V., Mining Engineer; Recipient of Stalin Premium

Title : Advantages and disadvantages of frontal and wing machines

Periodical : Mekh. Trud. Rab., 2, 30 - 31, March 1954

Abstract : Report explains the advantages and disadvantages of frontal and wing machines used in the coal mining industry. The field of application of such machines must be very limited because of the mining-geological conditions. Such machines can be exploited only on strata of constant strength, having no obstructions, folds, bends, with comparatively constant angle of dip and absence of complex supports. The equipment necessary for the extraction of coal with the aid of these machines will apparently be cumbersome and the assembly and disassembly requires much loss of time. Graph.

Institute : ....

Submitted : ....

PEROV, I.V., laureat Stalinskoy premii.

Machinery is needed for varying mine conditions. Mekh.trud.rab.
9 no.10 O "55. (MLRA 9:1)

1.Glavnyy inzhener tresta Stalinugol'.
(Coal mining machinery)

PEROV, I.V., gornyy inzh.

Improve the designing of hydraulic mines and accelerate the creation of wear-resistant hydraulic equipment. Ugol' 39 no. 9:80-82 S '64. (MIRA 17:10)

PEROV, L.

Discreteness of space and time. Znan. ta pratsia no.1:10-12 Ja '62. (MIRA 15:1)

(Space and time)

PEROV, M.

At the excavations of Ol'viia. Nauka i zhizn' 22 no.10:46-48 O '55.
(Ol'viia--Excavations (Archaeology)) (MLRA 9:1)

PEROV, M.

Colchis. Nauka i zhizn' 21 no.10:39-40 O '54. (MLRA 7:11)
(Colchis--Drainage) (Drainage--Colchis)

PEROV, M.

USSR/Agriculture - Drainage

Card 1/1 Pub. 77 - 19/23

Authors : Perov, M.
[redacted]

Title : Kolkhida (Terrain problems of this region)

Periodical : Nauka i Zhizn' 21/10, 39-40, Oct 1954

Abstract : A brief history is given of the region in Western Georgia called Kolhida, which yields precious metals, iron, lumber and other products, but which up to recent times was practically unsettled. A description is given of the draining of this region and the establishment of collective farms. Illustrations.

Institution : ...

Submitted : ...

PEROV, M.

"Credit for the construction of one-family homes for machine-tractor station and state farm workers." P.Miroliubov. Reviewed by M.Perov. Fin. SSSR 16 no.2:90 F '55. (MLRA 8:1)

1. Sekretar' partbyuro Krasnogorskoy MTS.
(Miroliubov, P.) (Housing--Finance)

PEROV, M. YA.

25539. PEROV, M. YA.
Uborochnaya Vlazhnost' i Samonagrevanie Frezernogo Torfa. Torf. Prom-st', 1948,
No. 7, s. 9-12

SO: Letopis' Zhurnal Statey, No. 30, Moscow, 1948

FEROV, M.I.

GrozNII pistons for drill pumps. Mash. i neft. obor. no.2:26-27
'63. (MIRA 17:8)

1. Neftepromyslovoye upravleniye "Malgobekneft'".

PEROV, M. YA.

"The Humidity of Peat When It is Stroed and Self-Generated Heat in Peat Stcok Piles," Trof. Prom., No. 7, 1948. Mvgiktorf, -c1948-.

PEROV, M. YA
25539

Uborochnaya Vlazhnost' i Samonagrevanie Frezernogo Torfa. Torf.
Prom-st', 1948,
No. 7, S. 9-12

SO: LETOPIS NO. 30, 1948

PEROV, N.

[illegible]

On Sakhalin. Kryl.rod. 2 no.6:16 Je '51. (MIRA 8:8)

1. Chlen Vsesoyuznogo soveta Dobrovol'nogo obshchestva sodeystviya aviatsii, predsedatel' Sakhalinskogo oblastnogo komiteta Dobrovol'nogo obshchestva sodeystviya aviatsii.

(Sakhalin--Aeronautics)

1.1500

S/598/61/000/006/032/034
D217/D303

AUTHORS: Nekhendzi, Yu.A., Butalov, L.V., Perov, N.I., and Filin, Yu.A.

TITLE: Casting properties of low-alloyed titanium and mechanical properties of castings made in this material

SOURCE: Akademiya nauk SSSR. Institut metallurgii. Titan i yego splavy. no. 6, 1961. Metallotermiya i elektrokhimiya titana, 240 - 250

TEXT: The casting properties of Ti, containing 0.8 - 1.0 % C, melted in the graphite crucible of an induction furnace, were investigated. In order to determine the dependence of fluidity on various factors, Chikel's probe was used; this consists of a stand and disc with vertical channels of various diameters made in it along it's circumference. The influence of superheating temperature (difference between casting temperature and melting point of Ti) and atmosphere on the fluidity of Ti was investigated and the mechani-

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Casting properties of low-alloyed ... D217/D303

cal properties of Ti castings and their microstructures were studied. Some aspects of the manufacture of, and defects encountered in, Ti castings are discussed. It is concluded that the mechanical and casting properties of Ti are close to those of special steel and enable completely satisfac[illegible]ry castings of considerable complexity to be obtained, in spite of some difficulties encountered. There are 10 figures, 1 table and 4 references: 3 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: Van Thyne and H.B. Kessler, J. Metals, USA. 1954, 6/2, 193.

Card 2/2

Perov, N.I.

PHASE I BOOK EXPLOITATION SOV/4548

Akademiya nauk SSSR. Komissiya po fiziko-khimicheskim osnovam proizvodstva stali

Primeneniye vakuuma v metallurgii (Use of Vacuum in Metallurgy) Moscow, Izd-vo AN SSSR, 1960. 334 p. Errata slip inserted. 4,500 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut metallurgii imeni A.A. Baykova. Komissiya po fiziko-khimicheskim osnovam proizvodstva stali.

Resp. Ed.: A.M. Samarin, Corresponding Member, Academy of Sciences USSR; Ed. of Publishing House: G.M. Makovskiy; Tech. Ed.: S.G. Markovich.

PURPOSE: This collection of articles is intended for technical personnel interested in recent studies and developments of vacuum steelmaking practice and equipment.

COVERAGE: The book contains information on steel melting in vacuum induction furnaces, and vacuum arc furnaces, reduction processes in vacuum, and degassing of steel and alloys. The functioning of apparatus and equipment, especially vacuum furnaces and vacuum booster pumps is also analysed. Personalities are mentioned in connection with some of the articles and will appear in the Table of Contents. Three articles have been translated from English. Some of the

Chuprin, K.K., V.M. Aronenko and I.S. Bolgov. Melting and Pouring of Nickel-Base Alloys in Vacuum [V.A. Zhabina, N.P. Lashko, V.A. Ashasha, A.P. Balashov and V.V. Mukhin participated in the work] 23

Nekhendzi, Yu.A., and M.T. Bogdanov. Casting of Oxide-Film-Forming Alloys in the Protective Atmosphere Under Vacuum 30

Nekhendzi, Yu.A., L.V. Butalov, N.I. Perov and Yu.A. Filin. The Effect of Melting and Casting in Vacuum and in Protective Atmosphere on the Properties of Titanium Castings 39

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Filippycheva, M.M. The Effect of Vacuum Melting on the Quality of 18KhNVA Steel 60

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Stroyev, A.S., O.Z. Podzinskiy, A.N. Ivanov, and B.V. Fedin. Melting of Refractory Metals in Vacuum Arc Furnaces 65

Belkov, A.F., D.S. Larionova, A.A. Tsareva and A.S. Sharp. Investigation of the Properties of Ball-Bearing Steel Remelted in a Vacuum Arc Furnace 72

Johnson, R.M. Vacuum Arc Melting 76

Polin, I.V., and E.I. Serebriyskiy. Melting of Stainless Steel in Vacuum Arc Furnaces 79

Akrey, M. Properties of Alloys Melted in Vacuum 88

Sorokin, P. Ya. Production of Low-Carbon Ferrochrome by Blowing Under Vacuum 93

PART III. REDUCTION PROCESSES IN VACUUM

Gel'd, P.V., and G.P. Shveykin. Kinetics of the Reduction of Niobium Pentoxide by Carbon in Vacuum 101

Meyerson, G.A. Vacuum-Thermic Reduction of Oxides of the Refractory Metals by Carbon [O.Ye. Kreyn, G.V. Samsonova, Ya.M. Lipkes, G.L. Zvereva and others of the Department of Metallurgy of Rare Metals of the Moskovskiy institut tsvetnykh metallov i zolota (Moscow Institute of Nonferrous Metals and Gold) conducted investigations on which this article is based] 115

Zhak, G. [Polish People's Republic, Institute of Iron Metallurgy in Gliwice] Decarburization of Ferrochrome in Vacuum 124

Card 2/9

NEKHENDZI, Yu.A.; BUTALOV, L.V.; PEROV, N.I.; FILIN, Yu.A.; Prinimal
uchastiye: GAVRILOV, V.N., inzh.

Founding properties of low-alloy titanium and the mechanical properties of titanium castings. Titan i ego splavy no.6:240-250 '61. (MIRA 14:11)

(Titanium alloys--Testing) (Titanium founding)

20516

S/128/60/000/003/001/007
A105/A133

18 1285 1808, 1145, 1454

AUTHORS: Nekhendzi, Yu. A.; Butalov, L. V.; Perov, N. I., and Filin, Yu. A.

TITLE: Casting properties of low-alloyed titanium

PERIODICAL: Liteynoye proizvodstvo, no. 3, 1960, 2-4

TEXT: Investigations showed some chemical changes of titanium at temperatures of 1,000°C causing a deterioration of the mechanical properties. New processes are being employed in the production of argon shielded arc welded bars, pipes and various rolled goods of titanium and its alloys. Intricate casts, free from casting defects have been achieved lately. High melting temperatures (1,725°) and a low heat conductibility (0.04 cal/cm sec°C) affect the hardening time and fluidity of titanium. The casting properties of titanium melted in induction furnaces, containing 0.8 - 1.0% carbon, have been tested by the Chikel' test (Chikel', I. - Ref. 1: "Liteynoye proizvodstvo", no. 1, 1959). The testing device consists of a 25 mm thick disk with vertical channels 1 - 10 mm in diameter. The filling-up conditions of the vertical channels are analogous to the filling up of vertical sections of

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A105/A133

Casting properties of low-alloyed titanium

thinwalled casts. All channels more than 6 - 7 mm in diameter were filled up to full height. At 1,850°C the vertical channels of 10 mm in diameter fill up to the full height, 5 - 6 mm diameter channels fill up to half their height. The temperature effect on the fluidity of 1% carbon titanium is shown in Figure 2. The best filling of forms is achieved with vacuum smelting and pouring. Figure 3 shows that, the overheat being the same, the fluidity of titanium and steel are close. Channels of smaller diameter fill up better with steel because of a less intensive heat transfer; wider channels fill up better with titanium than with steel due to the low heat conductivity of titanium. The linear shrinkage of titanium is similar to that of steel; therefore patterns for steel casting may be used for titanium casting. The smelting method and gas content of the metal affect the quantity and location of blowholes. Vacuum smelted titanium does not show more blowholes than steel. At identical smelting conditions the structure of titanium casts is finer. Figure 4 shows dependence of primary crystals on the cross section of castings and overheating temperature. Higher temperatures increase the grain size. Titanium hardens faster than steel; therefore the filling of molds has to be accomplished faster to reduce the time of interaction of titanium

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Casting properties of low-alloyed titanium

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and gas-phase. The elimination of blowholes may be achieved by degassing during the smelting or by filling the furnace with inert gas producing a lower pressure. Both systems secure good casts. In contrast to steel, titanium moistens the walls of ceramic molds forming over the meniscus thin, solidifying metal "tongues" affecting the origination of a thin crust. The right position of the mold is of great importance during the pouring; a minimum of horizontal surfaces should be ensured. There are 7 figures and 3 Soviet-bloc references.

Fig. 2

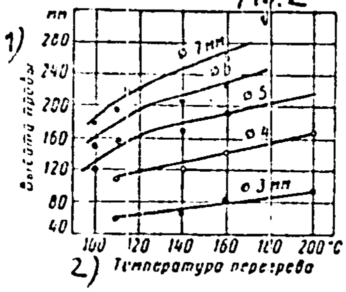

Figure 2:

(1) height of specimen;

(2) overheating temperature.

Card 3/5

Kh

✓ NECHENDZHI, Yu. A., BUTALOV, L. V., PEROV, N. I. and FILIN, Yu. A.
Leningrad Polytechnic Institute.

"Influence of the Vacuum and the Protective Atmosphere Melting on the Titanium Casting Properties."

paper presented at Second Symposium on the Application of Vacuum in Metallurgy.

[illegible]

L 26191-66 EWA(h)/EWT(m)

ACC NR: AM5025517 Monograph UR/ 57
B+1

Yegorov, I. M.; Zhernov, V. S.; Lazarev, A. P.; Perov, N. L.; Timofeyev, A. A., comps.

Apparaturs for recording and investigating ionizing radiation; a handbook (Apparatura dlya registratsii i issledovaniya ioniziruyushchikh izlucheniy; spravochnik) Moscow, Atomizdat, 1965. 429 p. illus., biblio. 4500 copies printed.

TOPIC TAGS: radiation dosimetry, ionizing radiation, nuclear physics apparatus, scintillator photomultiplier, gas discharge counter, ionization chamber, radiation dosimeter, radiometer, spectrometer

PURPOSE AND COVERAGE: This handbook is intended for research physicists in the field of dosimetrics and engineers and scienticists dealing with radioactive sources of radiation. It may also be useful to persons concerned with the development, operation, and maintenance of dosimetric, spectrometric, and radiometric equipment. The book deals with Soviet experimental nuclear physics instruments, equipment, photomultipliers, scintillators, Geiger-Mueller counters, ionization chambers, etc. Characteristics of instruments for individual dosimetric control, mearurements of doses and dose power, determination of the contamination of working areas and water by radioactive substances, aerosol devices, single and multichannel pulse analyzers, and others are described.

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SUB CODE: 09, 20/ SUBM DATE: 29Apr65/ ORIG REF: 068/ OTH REF: 002

Card 3/3 CC

PARINOV, N.T.; PEROV, N.N., aspirant

Tillage of soil for peas. Zemledelie 27 no.3:26-27 Mr '65.
(MIRA 19:1)

1. Upravlyayushchiy Makar'yevskogo otdeleniya sovkhoza imeni Lenina, Novousmanskogo rayona, Voronezhskoy oblasti (for Parinov). 2. Voronezhskiy sel'skokhozyaystvennyy institut (for Perov).

KVASNIKOV, V.V. [deceased]; PEROV, N.N., kand. sel'skokhoz. nauk

Biochemical processes in leached Chernozems as related to tillage. Dokl. Akad. sel'khoz. nauk no.10:1-4 0 '65. (MIRA 18:12)

1. Voronezhskiy sel'skokhozyaystvennyy institut. 2. Chlen-korrespondent Vsesoyuznoy akademii sel'skokhozyaystvennykh nauk imeni V.I.Lenina (for Kvasnikov).

PEROV, N.P.; KHANIN, N.M.

Road to communist labor. Kozh.-obuv.prom. 2 no.5:26-27 My '60. (MIRA 13:9)

(Shoe manufacture--Labor productivity)

ABKHAZI, V.I.; ANTONOV, V.Ya.; BLYUMENBERG, V.V.; VARENTSOV, V.S.;
VELLER, M.A.; ZYUZIN, V.A.; IVANOV, V.N.; KUZHMAN, G.I.;
LUKIN, A.V.; MATVEYEV, A.M.; OZEROV, B.M.; PAL'TSEV, A.G.;
PEROV, N.P.; PROKHOROV, N.I.; RAKOVSKIY, V.Ye.; SEMENSKIY, Ye.P.;
SOLOPOV, S.G.; TYUREMNOV, S.N.; TSUPROV, S.A.; CHULYUKOV, M.A.

Viktor Georgievich Goriachkin; obituary. Torf.prom. 39 no.4:40 '62. (MIRA 15:7)

(Goriachkin, Viktor Georgievich, 1893-1962)

PEROV, N.P.

Comparing the results of testing peat for strength. Trudy inst.
torf. AN BSSR 8:309-313 '59. (MIRA 13:12)
(Peat--Testing)

PEROV, N.P.; SEMCHUK, G.A.; [illegible], V.D.

Technological system for mining milled bituminous peat. Trudy Inst. torf. AN BSSR 9:49-53 '60. (MIRA 14:2)
(Peat industry)

PEROV, N.P.

Resistance of peat to impact during bending. Trudy Inst. torf.
AN BSSR 6:334-338 '57. (MIRA 11:7)
(Peat--Testing)

PEROV, N.P.

Investigating the elastic and plastic properties of peat. Trudy Inst. torf. AN BSSR 6:339-343 '57. (MIRA 11:7)

(Peat--Testing)

PEROV, N.P., kand.tekhn.nauk

Effect on the size of molded pieces of peat on their toughness.
Dokl. AN BSSR 2 no.7:306-307 Ag '58. (MIRA 11:10)

1. Predstavleno akademikom AN BSSR B.V.Yerfoyevym.
(Peat)

FEROV, [illegible] F.

"Investigation of the Strength of Small [illegible] Tent." Cand Tech Sci, Department of Physicomathematical and Technical Sciences, Acad Sci Belorussian SSR, Minsk, 1955. (KL, No 10, Mar 55)

SO: Sum. No. 670, 29 Sep 55--Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (11)

Country : USSR M

Category : CULTIVATED PLANTS. FRUITS. Berries.

Abs. Jour. : REF ZHUR-BIOL.,21,1958,NO 96133

Author : [illegible] May, [illegible]

Inst. : [illegible] (Tomsk Univ.)

Title : An Experiment in Cherry Cultivation in the City of Tomsk

Orig. Pub. : Byul. Sibirsk. botan. sada (Tomskiy un-t), 1958, vyp.5, [illegible]

Abstract : [illegible] cherry on the [illegible]

Card : 1/1

1. PEROV, N. V.

2. USSR (600)

4. Cherry - Siberia, Western

7. Cherry growing in the northern zone of Western Siberia, Trudy Tomsk. un., 1951

9. Monthly List of Russian Accessions, Library of Congress, March, 1953. Unclassified.

1. PEROV, N. V.

2. USSR (600)

4. Siberia, Western - Cherry

7. Cherry growing in the northern zone of Western Siberia. Trudy Tomsk. un. 117, 1951.

9. Monthly List of Russian Accessions, Library of Congress, March 1953. Unclassified.

Name:	PEROV, Orest Vladimirovich
Dissertation:	Hygiene and sanitary Engineering in Russia of the 9th to 17th centuries
Degree:	Doc Med Sci
Affiliation:	Scientific-Research Inst of Expertise of Work Fitness
Defense Date, Place:	4 May 56, Council of the Department of Hygiene, Microbiology, and Epidemiology, Acad Med Sci USSR
Certification Date:	8 Jun 57
Source:	BMVO 16/57

PEROV, O.V., doktor med. nauk, prof.

Criminal activity of fascist physicians during the Great Patriotic War. Voen-med. zhur. no.6:79-82 '64. (MIRA 18:5)

PEROV, O. V.

PEROV, O. V. -- "Hygiene and Sanitary Techniques in Russia from the 9th to the 17th Centuries." Acad Med Sci USSR. Division of Hygiene, Microbiology, and Epidemiology. Moscow, 1955. (Dissertation for the Degree of Doctor in Medical Sciences).

So.: Knizhnaya Letopis', No. 2, 1956.

PEROV, O.V.

Laboratory and experimental methods in research in medical history.
Sov.zdrav. 16 no.6:35-39 Je '57. (MLRA 10:8)

1. Iz kafedry gigiyeny (zav. - dotsent O.V.Perov) Tartuskogo universiteta
(HISTORY, MEDICAL
laboratory & exper. research)
(RESEARCH, hist.
med., laboratory & exper. methods)

PEROV, O.V., prof. (Ternopol')

Experiments on human subjects in current foreign medicine; a review of literature. Sov. zdrav. 22 no.7:71-76 '63
(MIRA 16:12)

1. Iz kafedry gigiyeny (zav. - prof. O.V. Perov) Ternopol'skogo meditsinskogo instituta.

PEROV, O.V., prof.; BORIS, D.N., promyshlenno-sanitarnyy vrach

Dust at open cold asphalt plants and its effect on the sanitary conditions of populated areas. Gig. i san. 28 no.7:62-64 Jl '63. (MIRA 17:1)

1. Iz kafedry gigiyeny Ternopol'skogo meditsinskogo instituta i Oblastnoy sanitarno-epidemiologicheskoy stantsii.

PEROV, O.V., prof.

V.I. Vernadskii's teaching concerning the biosphere and modern hygiene; on the one-hundredth anniversary of Academician V.I. Vernadskii's birth. Gig. i san. 28 no.7: 41-44 Jl '63. (MIRA 17:1)

1. Iz kafedry gigiyeny Ternopol'skogo meditsinskogo instituta.

PEROV, O.V.

Freudianism and preventive medicine. Sov.zdrav. 17 no.9:10-18
S'58 (MIRA 11:8)

1. Iz kafedry gigiyeny (zav. - doktor med.nauk O.V. Perov)
Tartuskogo universiteta.
(PSYCHOANALYSIS THEORY,
Freu's concepts, prev.med. (Rus))
(MEDICINE, PREVENTIVE,
relation to Freud's concepts (Rus))

PEROV, O.V., dotsent

Seasonal influences on somnolence in preschool children [with summary in English]. Pediatriia 36 no.6:52-53 Je '58 (MIRA 11:6)

1. Iz kafedry gigiyeny Tartuskogo gosudarstvennogo universiteta.
(CHILD
seasonal influences on somnolence in preschool age
(Rus))
(SLEEP,
same)
(CLIMATE,
same)

PEROV, O.V., doktor meditsinskikh nauk (Ternopol')

Critique of Freudianism in the evaluation of work activity. Sov. zdrav. 19 no.11:15-20 '60. (MIRA 13:11)

1. Iz kafedry gigiyeny (zav. - doktor meditsinskikh nauk O.V.Perov) Ternopol'skogo meditsinskogo instituta (dir. - dotsent P.Ye.Ogiy).
(PSYCHOANALYSIS) (WORK)

PEROV, O.V, prof.

Photodynamic toxicity of some dyes. Vrach. delo no.10:128-132 O '61.
(MIRA 14:12)

1. Kafedra gigiyeny (zav. - prof. O.V.Perov) Ternopol'skogo meditsinskogo instituta.

(DYES AND DYEING--TOXICOLOGY)
(PHOTODYNAMIC ACTION)

PEROV, O.V., prof. (Ternopol')

Technical interpretation of biological and social phenomena in foreign cybernetics. Sov. zdrav. 21 no.6:33-37 '62. (MIRA 15:5)

1. Iz kafedry gigiyeny (zav. - prof. O.V.Perov) Ternopol'skogo meditsinskogo instituta (rektor - dotsent P.Ye.Ogiy).
(CYBERNETICS) (INFORMATION THEORY IN BIOLOGY)

PEROV, O.V., prof.

Characteristics of the absorption of visible light by the skin surface of man. Vrach. delo no.2:118-120 F'64 (MIRA 17:4)

1. Kafedra gigiyeny (zav. - prof. O.V. Perov) Ternopol'skogo meditsinskogo instituta.

[illegible], I.

Efficient method of eliminating industrial [illegible]. Tr. from [illegible]

SO: East European Accessions List, [illegible]

PEROV, P.

"Efficient Method of Eliminating Industrial Noises." Tr. from the Russian. p. 224, Praha, Vol. 2, no. 5, May 1954.

SO: East European Accessions List, Vol. 3, No. 9, September 1954, Lib. of Congress

PEROV, P.F., inzhener.

Device for setting up a thread-cutting machine. Vest.mash. 34 no.3:71 Mr '54. (MLRA 7:4)

1. Zavod im. Lepse. (Screw-cutting machines)

PEROV, P. F.

USSR/Miscellaneous---machine construction

Card 1/1

Author : Perov, P. F., engineer (Lepse factory)

Title : Device for adjusting a thread-grinding machine

Periodical : Vest. mash. 34/3, 71, Mar/1954

Abstract : Formerly when grinding thread on taps or plugs much time was consumed in adjusting the machine with an S movement and profile angle $\frac{\alpha}{2}$, and 4-6 taps only were ground at one setting. A device is described by which the time of adjustment is reduced by 40 percent and the method of operation is explained. Drawings.

Institution : ....

Submitted : ....

PEROV, P.P., inzhener.

Automatic hydraulic testing of large-size steel equipment. Vest. mash.36 no.12:23-25 D '56. (MLRA 10:2)
(Tool steel--Testing)

PEROV, P.F.

USSR/ Engineering - Machine tools

Card : 1/1 Pub. 128 - 22/32

Authors : Perov, P. F.

Title : A highly-efficient tri-roller chuck for cutting rod-metal

Periodical : Vest. mash. 34/7, 71 - 72, July 1954

Abstract : The efficiency expert, B. A. Gorbachev, designed and produced a tri-roller chuck for cutting rod-metal. The operation of the chuck and the displacement of its components, is described. Diagram.

Institution : ...

Submitted : ...

PEROV, P.F.

Mechanizing assembly work. Mashinostroitel' no.2/3:34-35 N-D '56.
(MIRA 12:1)

1.Leningradskiy zavod imeni Lepse.
(Assembly-line methods)

PEROV, P.F., inzhener.

High-production, three-roller chuck for rod work. Vest.mash.
34 no.7:71-72 Jl '54. (MLRA 7:8)
(Chucks)

PEROV, P.F., inzhener.

Efficient noise-control method. (Tests of the Leningrad Lepse armature plant).
Vest.mash. 33 no.9:96 S '53. (MLRA 6:10)
(Noise)

KUKHARKOVA, L. L.; LAVROVA, L. P.; FREYDLIN, Ye. M.; KASTRULINA, Z. N.; PEROVA, F. V.;
BUSHKOVA, L. A.

"Cover pickles microflora in smoked pork meats and bacon production."

report submitted for 10th European Mtg, Meat Res Workers, Rockilde, Denmark, 7-15 Aug 1964.

ANTONOV, A.V.; BLOKHOV, M.V.; VENIKOV, N.I.; KALININ, S.P.; KURASHOV, A.A.;
PEROV, P.Ye.; CHESALOV, A.A.

Reducing the migration density of ion bunches in an IAE cyclotron.
Prib. i tekh. eksp. 9 no.6:30-32 N-D '64.
(MIRA 18:3)

1. Institut atomnoy energii AN SSSR.

L 34780-66 EWT(m)

ACC NR: AR6017209 SOURCE CODE: UR/0058/65/000/012/A036/A037

34/2

AUTHORS: Kurashov, A. A.; Pankratov, V. M.; Perov, P. Ye.

19

TITLE: Electronic devices for a two-dimensional time-of-flight spectrometer for fast nuclear particles

SOURCE: Ref. zh. Fizika, Abs. 12A343

REF SOURCE: Tr. 6-y Nauchno-tekhn. konferentsii po yadern. radioelektron. T. 2. M., Atomizdat, 1965, 125-135

TOPIC TAGS: nuclear radiation spectrometer, spectrum analysis, electronic component

ABSTRACT: The article describes briefly a two-dimensional time-of-flight spectrometer for fast nuclear particles. This spectrometer is constructed on the basis of the time analyzer of the fast-neutron spectrometer of the IAE cyclotron laboratory. The time analyzer operates on the "vernier" principle. The resolving time of the two-dimensional spectrometer is ~ 3 nsec in each arm. The channel width is 0.65 -- 2 nsec. The maximum possible number of channels is 1023. The spectrometer records the obtained information directly on a paper chart with the aid of a type PL perforator. The registration speed reaches 5 correlated events per second. A detailed description of the electronic devices that ensure sequential operation of the individual units of the spectrometer is presented. L. S. [Translation of abstract].

SUB CODE: 09, 20

Card 1/1 fv

2c

L 27229-65 EWT(m)/EPA(w)-2/EWA(m)-2 Pab-10/Pt-10 IJP(c)

ACCESSION NR: AP5002141 S/0120/64/000/006/0030/0032 49 35 B

AUTHOR: Antonov, A. V.; Blokhov, M. V.; Venikov, N. I.; Kalinin, S. P.; Kurashov, A. A.; Perov, P. Ye.; Chesalov, A. A.

TITLE: Reducing the repetition frequency of ion clusters in the IAE cyclotron 19

SOURCE: Pribory i tekhnika eksperimenta, no. 6, 1964, 30-32

TOPIC TAGS: cyclotron, IAE cyclotron

ABSTRACT: A system intended for a fourfold reduction of the repetition frequency of ion clusters on the cyclotron target is described. The ions are deflected in the vertical plane by a h-f sinusoidal voltage applied to a special deflecting system placed in the ion duct; admitting the required clusters to the target takes place at zero-voltage moments. Formulas for designing the deflecting-electrode shape and calculating the deflecting voltage are supplied. A block diagram of the electronic system is explained. The system can be tuned within 1.15—1.75 Mc.

Card 1/2

L 27229-65

10

ACCESSION NR: AP5002141

"The authors wish to thank N. N. Khaldin, V. I. Lamunin, and P. I. Vasil'yev for designing the system; Yu. V. Korshunov for calculating the tuned circuit of the deflecting system; R. A. Ariskina, B. I. Khoroshavin, and Ye. I. Rybakov for their help in the preparation of experiments; and A. A. Ogloblin and V. M. Pankratov for their constant interest in the project." Orig. art. has: 1 figure and 8 formulas.

ASSOCIATION: Institut atomnoy energii (Institute of Atomic Energy)

SUBMITTED: 19Nov63 ENCL: 00 SUB CODE: NP

NO REF SOV: 002 OTHER: 000

Card 2/2

NOVIKOV, A.T., kandidat meditsinskikh nauk (Moskva); PEROV, S.A., (Moskva)

Clinical peculiarities and course of recurrent myocardial infarct. Klin. med. 34 no.1:42-45 Ja '56. (MLRA 9 5)

(MYOCARDIAL INFARCT
recurrent, clin. aspects)

PIROV, S.A.; SHULTSEV, G.P. (Moskva)

Clinical aspects of camphor (oil) embolism. Klin.med. 39
no.5:146-148 My '61. (MIRA 14:5)
(EMBOLISM) (CAMPHOR)

PEKOV, S.A. (Moskva)

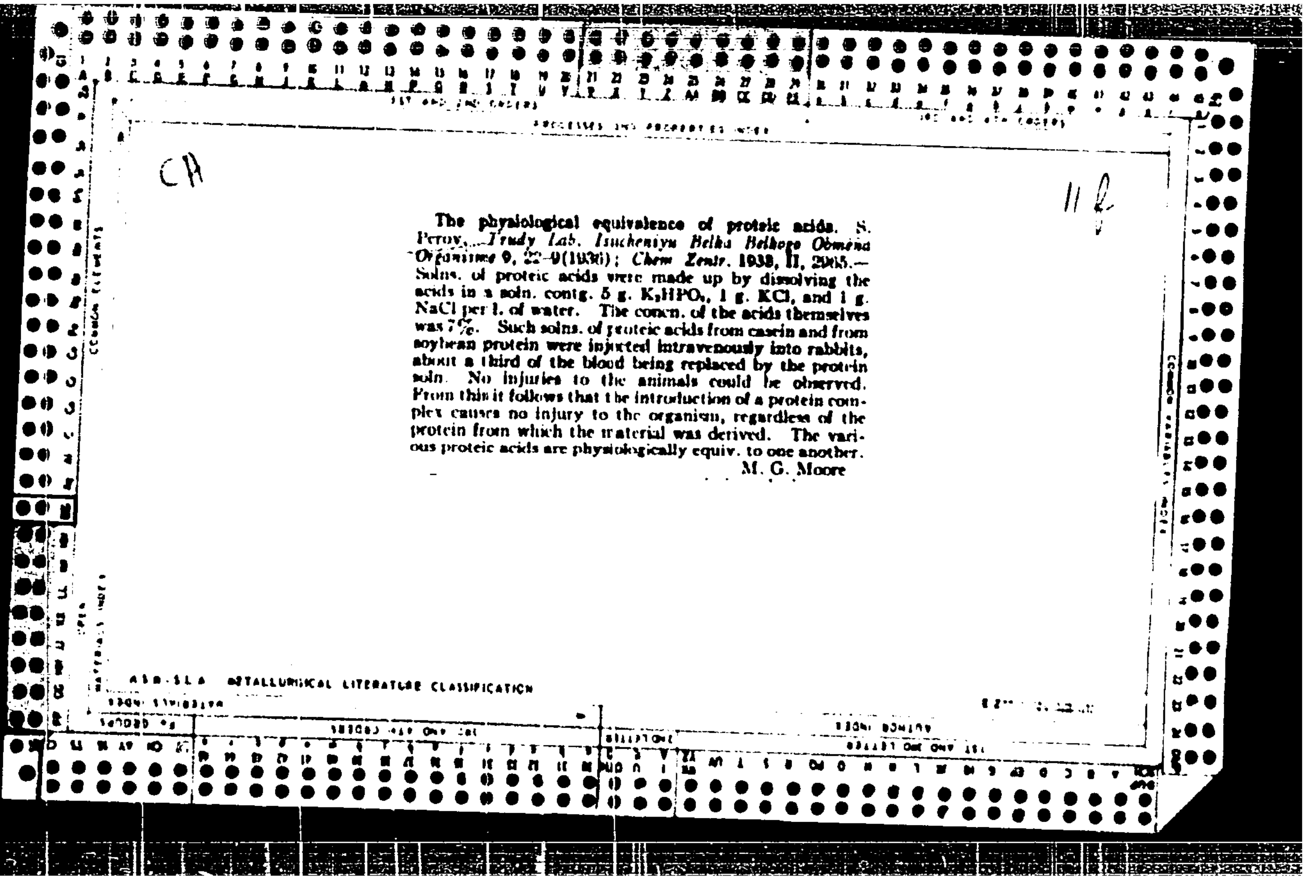
Reaction of the dog organism to burn trauma following multiple irradiation with small doses of ionizing radiation. Eksper. khir. i anest. 9 no.5:63-64 S-O '64.

(MIRA 18:11)

ABELEV, G.I.; PEROVA, S.D.; KHRAMKOVA, N.I.; POSTNIKOVA, Z.A.; IRLIN, I.S.

Alpha globulin of embryonic serum and its synthesis by transplanted hepatomas in mice. Biokhimiia 28 no.4:625-634 Jl-Ag '63.
(MIRA 18:3)

1. Institut epidemiologii i mikrobiologii imeni Gamalei AMN SSSR, Moskva.



PROCESSES AND PROPERTIES INDEX

CA

11 f

The physiological equivalence of proteic acids. S. Perov. *Trudy Lab. Isucheniyu Belka Belkovo Obmena Organisme* 9, 22-9(1936); *Chem. Zentr.* 1938, II, 2065.—Solns. of proteic acids were made up by dissolving the acids in a soln. contg. 5 g. K_2HPO_4, 1 g. KCl, and 1 g. NaCl per l. of water. The concn. of the acids themselves was 7%. Such solns. of proteic acids from casein and from soybean protein were injected intravenously into rabbits, about a third of the blood being replaced by the protein soln. No injuries to the animals could be observed. From this it follows that the introduction of a protein complex causes no injury to the organism, regardless of the protein from which the material was derived. The various proteic acids are physiologically equiv. to one another.

M. G. Moore

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

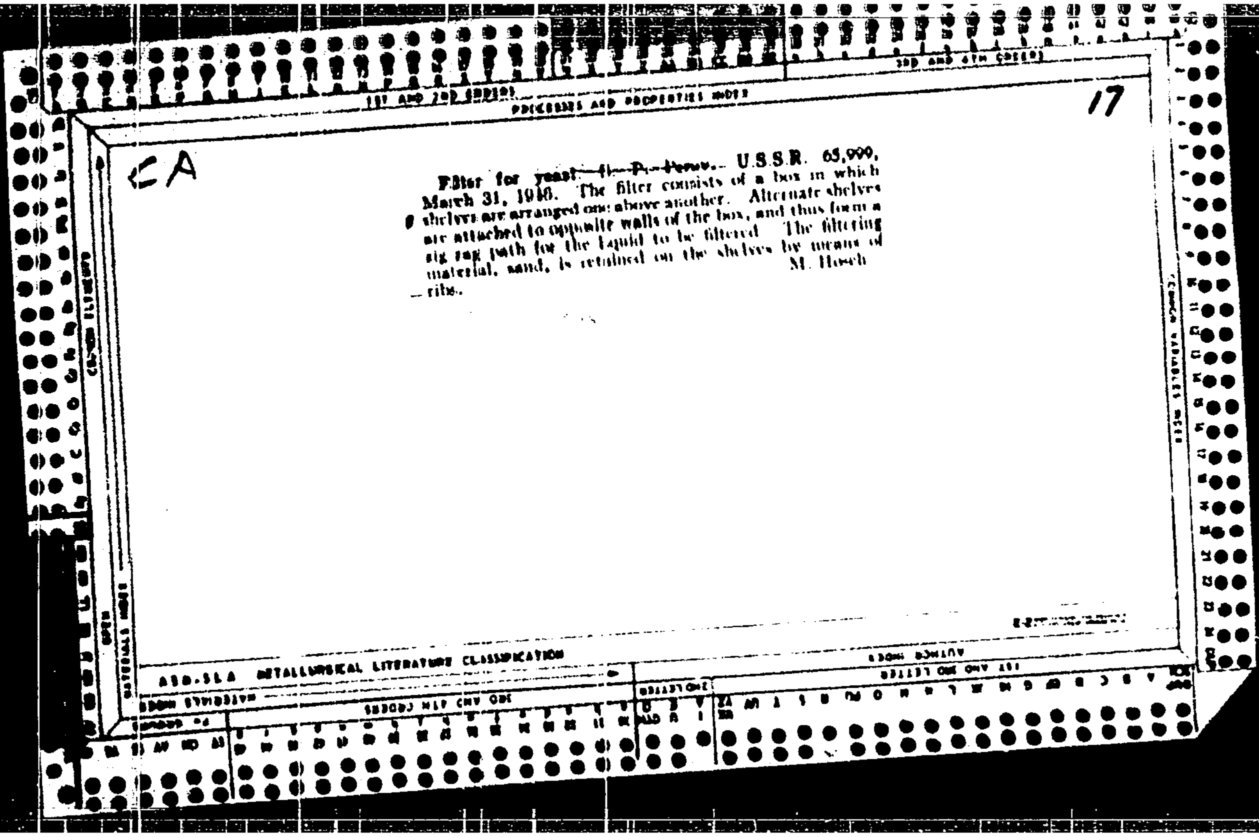
PROCESSES AND PROPERTIES INDEX

(17

5

Physical-chemical characteristics of the proteic acids of southern bean plants. S. Petrov. *Trudy Lat.* [illegible] *Akad.* [illegible] *Chem.* [illegible] *Nauk* [illegible] 6, 30 [illegible]; *Chem. Zentr.* 1938, II, [illegible]. Proteic acids were prepd. from the prot. of various bean plants and their phys. consts. detd. These consts. were found to be approx. the same for all the proteic acids. The isoelec. point was at pH 4.[illegible] The 1% soln. of the Na proteinates had a refraction of [illegible], a viscosity [illegible], a surface tension of [illegible] and an elec. cond. of 12.4 [illegible] M. G. M.

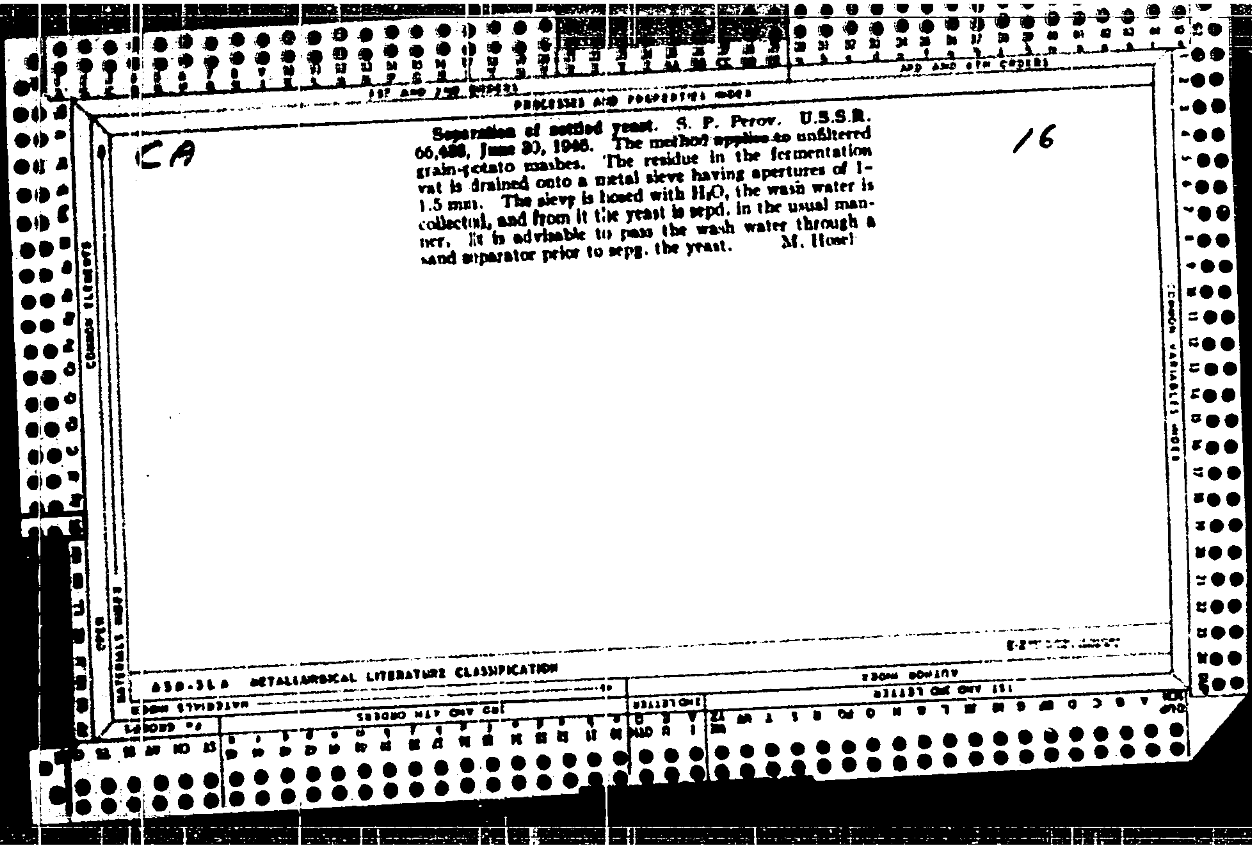
METALLURGICAL LITERATURE CLASSIFICATION


1ST AND 2ND ORDERS
PROCESSES AND PROPERTIES INDEX
3RD AND 4TH ORDERS
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION
AUTHOR INDEX
1ST AND 2ND LETTER

CA

17

Filter for yeast. ~~I. P. Perov.~~ U.S.S.R. 65,999,
March 31, 1946. The filter consists of a box in which
shelves are arranged one above another. Alternate shelves
are attached to opposite walls of the box, and thus form a
zig zag path for the liquid to be filtered. The filtering
material, sand, is retained on the shelves by means of
ribs. M. Hosch



1ST AND 2ND ORDERS
PROCESSES AND PROPERTIES INDEX
3RD AND 4TH ORDERS
ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

CA

16

Separation of settled yeast. S. P. Perov. U.S.S.R. 66,488, June 30, 1946. The method applies to unfiltered grain-potato mashes. The residue in the fermentation vat is drained onto a metal sieve having apertures of 1-1.5 mm. The sieve is hosed with H_2O, the wash water is collected, and from it the yeast is sepd. in the usual manner. It is advisable to pass the wash water through a sand separator prior to sepg. the yeast. M. Hosch

37137
S/179/62/000/001/005/027
E114/E181

10.3100

AUTHORS: Izakov, M.N., and Perov, S.P. (Moscow)

TITLE: Study of heat transfer for a cylinder in a stream of rarefied gas

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye tekhnicheskikh nauk. Mekhanika i mashinostroyeniye, no.1, 1962, 42-51

TEXT: The study of heat transfer of bodies in a stream of rarefied gas is relevant to problems of aerodynamic heating in flight at great height and at re-entry of a ballistic missile into the atmosphere and to meteorological measurements by means of rockets. The present article describes experimental measurements of the recovery coefficients and of heat transfer for cylinders placed across the axis of the stream of gas for a wide range of Reynolds numbers. To elucidate the laws governing the variation of these quantities for conditions ranging from free molecular flow to continuous flow, tungsten filaments were placed in a wind tunnel and investigated at Mach numbers from 1.2 to 3.0, Reynolds numbers from 0.5 to 140 and Knutsen numbers from 0.03 to

Card 1/4

Study of heat transfer for a ... S/179/62/000/001/005/027
E114/E181

6.5. Theoretical equations which were derived by taking into consideration free molecular and continuous flow and heat loss by convection and radiation were found to be linear, with the exception of the heat conducted away through the supports. Means are described for minimising this source of error. Air or nitrogen from heated high pressure bottles enters the wind tunnel through a pressure regulator and a reducing valve. The static tube was situated at the end of the divergent nozzle in which the gases were accelerated before entering the experimental zone, containing the Pitot tube and the tested models. Beyond the convergent nozzle with a diffuser to reduce the speed and increase the pressure of the gas stream, there was a connecting tube with a valve leading to an evacuated gas holder. Before each experiment the gas holder was evacuated by means of pumps. Symmetrical nozzles were used with nominal Mach numbers, 1.5, 2.25 and 3. The thickness of the boundary layer, and therefore the real Mach number, varied significantly during the experiments because of the considerable variations in density. Care was taken that the models were contained in the isentropic core and

Card 2/4

Study of heat transfer for a ... S/179/62/000/001/003/027
E114/E181

balanced by heat dissipation - the limit of free molecular flow lay somewhere in the region of Knutsen number 10 - 20, which agreed with the experimental findings of Stalder. The limit may depend on the Mach number. The limit between the shear and continuous flow was found to be between Knutsen numbers 0.02 and 0.03. The results concerning the recovery coefficient were less definite and the spread of the experimental points indicated that there may have been factors influencing heat transfer which were not controlled in the experiment.
There are 8 figures and 2 tables.

SUBMITTED: October 13, 1961

Card 4/4

L 23509-65 EWP(e)/EWT(m)/EPF(c)/EPF(n)-2/EWA(d)/T/EWP(t)/EWP(k)/EWP(b)
IJP(c) MJW/JD/JG

ACCESSION NR: AT5001569

S/2789/64/000/056/0018/0026

AUTHOR: Perov, S.P.

B+1

TITLE: An experimental determination of the coefficient of irradiation 19 and the coefficient of accommodation of air for tungsten wire 17 17 in the temperature interval from 20 to 215C

SOURCE: Tsentral'naya aerologicheskaya observatoriya. Trudy, no. 56, 1964. Fizika vysokikh sloyev atmosfery. Teoriya i metody issledovaniya (Physics of high atmospheric layers. Theory and methods of investigation), 18-26

TOPIC TAGS: accommodation coefficient, irradiation coefficient, tungsten filament, 18 tungsten rhenium alloy, resistivity coefficient/alloy VR-20

ABSTRACT: Experimentally obtained values of the coefficients of accommodation and irradiation for VR-20 tungsten wire (an alloy of 80% W and 20% Re) 21 are given. It is shown that the heat lost through the filament ends is practically independent of their lengths for sufficiently long filaments; therefore, a two segment method is chosen to eliminate heat loss through the ends in computation. The following formula for the coefficient of radiation is derived from the equations of thermal equilibrium for the two filaments, assuming that the range of temperatures T_0, T_{H_1}, T_{H_2} is not too great and

Card 1/5

L 23[illegible]09-65

0

ACCESSION NR: AT5001569

neglecting the conduction terms:

$$\varepsilon = \frac{0.239\, I^2 (R_2 - R_1)}{4 \sigma T_0^3 \pi d \left[(\overline{T}_{H_1} - T_0)\, l_2 - (\overline{T}_{H_2} - T_0)\, l_1 \right]}, \qquad (1)$$

where i is current; T_H, filament temperature in °K; σ, the Stephan-Boltzmann constant; l, filament length; and d, filament diameter. The coefficient of accommodation (since Knudsen's number Kn ≅ 60) is determined according to the formula:

$$a = \frac{k \sqrt{T_0}}{0{,}0647\, p}, \qquad (2)$$

where p is the pressure and the coefficient of heat exchange is given by:

$$k = \frac{0{,}239\, I^2 (R_2 - R_1) - 4 \varepsilon \sigma T_0^3 \pi d \left[(\overline{T}_{H_2} - T_0)\, l_2 - (\overline{T}_{H_1} - T_0)\, l_1 \right]}{\pi d \left[(\overline{T}_{H_2} - T_0)\, l_2 - (\overline{T}_{H_1} - T_0)\, l_1 \right]}. \qquad (3)$$

The experimental apparatus consisted of a vacuum system, a thermostat, and an electrical measuring circuit. The thermostat contained two evacuated glass tubes holding the samples, a mixer, a heating element, a thermometer and a thermocouple. It was filled with VM-4 oil. Temperature regulation was effected by the thermocouple causing an imbalance in a mirror galvanometer circuit; in turn, the beam from the galvanometer mirror regulated the heating element through the agency of two

Card 2/

L 23509-65

3

ACCESSION NR: AT5001569

photoresistance elements in its supply circuit. An accuracy of ± 0.05C was obtained. Before the experiment, the resistance of each filament sample had been determined as a function of its temperature. In this way experimental determination of the resistance of each sample also served to fix the temperature. Measurement of the coefficient of irradiation was made at 10^{-5} mm Hg; filament temperature was maintained at 10C above that of the thermostat walls (see Fig. 1 of the Enclosure). The coefficient of accommodation was determined at $5 \cdot 10^{-2}$ mm Hg (see Fig. 2 of the Enclosure). The temperature dependence of this coefficient is attributed to variation in surface and chemical adsorption. The graduation curves for the filament show the temperature coefficient of resistivity to be $\beta = 1.37 \cdot 10^{-3} + 0.01 \cdot 10^{-3}$. Error is estimated to be about 2% for the coefficient of irradiation and 5% for the coefficient of accommodation. "The author thanks G. A. Kakin and A. S. Rakhmanov for their aid." Orig. art. has: 12 equations and 8 figures.

ASSOCIATION: Tsentral'naya aerologicheskaya observatoriya (Central aerologic observatory)

SUBMITTED: 00 ENCL: 02 SUB CODE: MM, NP

NO REF SOV: 005 OTHER: 003

Card 3/

EWP(e)/EWT(m)/EWA(d)/T/EWP(t)/EWP(k)/EWP(b) MJW/JD

L 23508-65 S/2789/64/000/056/0027/0031

ACCESSION NR: AT5001570

AUTHOR: Perov, S. P.; Rusina, V. Ya.

B+1

TITLE: An experimental determination of the coefficients of absorption of metallic filaments

SOURCE: Tsentral'naya aerologicheskaya observatoriya. Trudy, no. 56, 1964. Fizika vysokikh sloyev atmosfery. Teoriya i metody issledovaniya (Physics of high atmospheric layers. Theory and methods of investigation), 27-31

TOPIC TAGS: absorption coefficient, solar energy absorption, resistance thermometry, tungsten filament, oxidized tungsten filament, palladium coated filament, gold coated filament, actinometry/tungsten VR-20

27 18 27 15

AM

ABSTRACT: Measurements have been made of the coefficients of absorption of solar energy for tungsten filaments with several surfaces. The authors measured the coefficients of absorption of cylindrical wires with a specific view to their application in resistance thermometers used in rocket sounding. Determination of the coefficients was made by comparing the currents necessary to maintain filament temperature in the presence and absence of illumination. The following formula, derived from the equations of thermal equilibrium in the presence and absence of illumination, was used:

$$a=\frac{0.239\,(I_0^2-I_1^2)\,R}{Eld}, \qquad (1)$$

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L 23508-65

ACCESSION NR: AT5001570

where (α is the coefficient of absorption, R - the resistance (constant for a given temperature), l - length and d - the diameter of the specimen, and E is the impingent light. A xenon lamp served as a light source. To determine the coefficients of absorption for relatively narrow spectral intervals, glass filters were used. These permit the selection of intervals encompassing 150 Å to 1 micron with in the 0.3 - 3 micron range. The filament being examined was enclosed in an evacuated glass chamber. A Yanishevskiy actinometer was used to measure the light power. The described apparatus permits the measurement of the coefficients of absorption of metallic filaments in the 0.3 - 3 micron range. If necessary, this band can be expanded into the infrared and ultraviolet. The spectral coefficients of absorption of the following types of tungsten wires were determined: VR-20 [80% W, 20% Re], 40 microns in diameter; VR-20 coated with an alloy of 90% Au and 10% Pd, 35 microns in diameter; annealed tungsten (with an oxidized surface), 40 microns in diameter. The coefficients of absorption for individual spectral intervals are given in tabular form. Using these coefficients and the known distribution of energy in the solar spectrum (Francis S. Johnson, The solar constant. Journ. of meteorology, vol. 11, No. 6, 1954), the coefficients of absorption of solar radiation were calculated to be 0.35 for the Au and Pd coated VR-20 filament and 0.83 for the oxidized tungsten. The accumulated error is estimated to be

Card 2/3

L 23508-65

2

ACCESSION NR: AT5001570

about %. "The author thanks M. N. Izakov for proposing the problem and aiding in the investigation." Orig. art. has: 5 formulas, 1 figure and 3 tables.

ASSOCIATION: Tsentral'naya aerologicheskaya observatoriya (Central aerologic observatory)

SUBMITTED: 00

ENCL: 00

SUB CODE: MM, NP

NO REF SOV: 010

OTHER: 002

Card 3/3

L 22612-65 EWT(1)/FCC/EWA(h) Po-4/Pq-4/Pae-2/Peb/Pt-10/Pi-4 GW-2
ACCESSION NR: AT5001573 S/2789/64/000/056/0121/0127

AUTHOR: Perov, S. P.; Chizhov, A. F.

BT
B41

TITLE: On the possibility of measuring the concentration of atomic oxygen at a height of 100—150 km by a heat-transducer method

SOURCE: Tsentral'naya aerologicheskaya observatoriya. Trudy, no. 56, 1964. Fizika vysokikh sloyev atmosfery. Teoriya i metody issledovaniya (Physics of high atmospheric layers. Theory and methods of investigation), 121-127

TOPIC TAGS: molecular oxygen, atomic oxygen, heat transducer, atomic concentration, recombination heat, emission coefficient, dissipation energy, thermal equilibrium

ABSTRACT: Molecular oxygen is totally dissociated at the height of
100 km. Owing to atmospheric intermixing and diffusion, molecular
oxygen may penetrate higher into the atmosphere than atomic oxygen. A
new method using heat transducers has been developed for measuring the
atomic concentration in the free atmosphere. The theory of heat trans-
ducers is based on formulas which include recombination heat, external

Card 1/3

L 22612-65
ACCESSION NR: AT5001573

heat, emission coefficient, and the Boltzmann constant; they express the dependence of atomic concentrations upon recombination heat, the shape of the instrument, and the dissipation energy of oxygen molecules. An overheating process caused by the recombination takes place at an altitude of 90 km when the atomic concentration is 10" atoms per cubic centimeter. The maximum overheating under favorable conditions is 200C. The main part of the measuring device is a cylindrical wire. The thermal equilibrium of the wire is expressed by a formula containing the connection between recombination heat, heat exchange in the gas, other external heat, and the temperature of the wire. The measuring device may be put into a glass box with a hole, and the atomic concentration is measured in the box. Results obtained are compared with the concentration in the free atmosphere. Orig. art. has: 1 figure, 2 tables, and 20 formulas. [EG]

ASSOCIATION: Tsentral'naya aerologicheskaya observatoriya (Central Aerological Observatory)

Card 2/

PEROV, S. P.

Measurement of the coefficient of air accommodation on metallic filaments. Trudy TSAO no.61:58-85 '65.

Determining atmospheric density with a resistance thermometer mounted on a rocket. Ibid.:86-92 (MIRA 18:7)

L 51499-65 EWA(h)/EWT(1)/EEC(t)/EEC(b)/FCC/FSS-2 Pi-4/Po-4/Pq-4/Pae-2/Peb GW

ACCESSION NR: AT5013410 UR/2739/65/000/061/0086/0092

36
35
B+1

AUTHOR: Perov, S. P.

TITLE: Atmospheric density determination with a rocket-borne resistance thermometer

SOURCE: Tsentral'naya aerologicheskaya observatoriya. Trudy, no. 61, 1965. Fizika vysokikh sloyev atmosfery, teoriya i metody issledovaniya (Physics of high atmospheric layers, theory and methods of investigation), 86-92

TOPIC TAGS: atmospheric density, atmospheric temperature, resistance density measurement, meteorological sounding, meteorological rocket, resistance thermometer

ABSTRACT: Fine tungsten wire resistance thermometers are widely used in the Soviet Union during rocket investigations of the atmosphere (recording of temperature and pressure). During high-velocity rocket motion through the air, the sensor readings depend in a complicated way on the temperature and pressure of the free atmosphere; this relationship was investigated by G. A. Kokin and M. N. Izakov (P. P. Alekseyev, et al. Meteorologiya i gidrologiya, no. 8, 1957; M. N. Izakov and S. P. Perov, Izv. AN SSSR, OTN, no. 1, 1962). The present paper investigates the applicability of resistance thermometers to atmospheric density measurements at great altitudes (60—80 km). An exposition of the physical basis of the method (aerodynamic equations developed for the case of a flat plate in a free-molecular flow) is followed

Card 1/2

L 51449-65

ACCESSION NR: AT5013410

by a discussion of the experimental results shown in Fig. 1 of the Enclosure, which indicate that the proposed method can be used for density and temperature determinations up to altitudes of 85—90 km. The use of the described method requires extreme care in the determination of radiation terms, but the method is very convenient for nighttime experiments because the sum of radiation terms is minimal and the angular dependence of longwave radiation on the thermometer is negligibly small. [ER] Orig. art. has: 15 formulas and 3 figures.

ASSOCIATION: Tsentral'naya aerologicheskaya observatoriya (Central Aerological Observatory)

SUBMITTED: 00 ENCL: 01 SUB CODE: ES, SV

NO REF SOV: 006 OTHER: 001 ATD PRESS: 4017

Card 2/[illegible]

CA

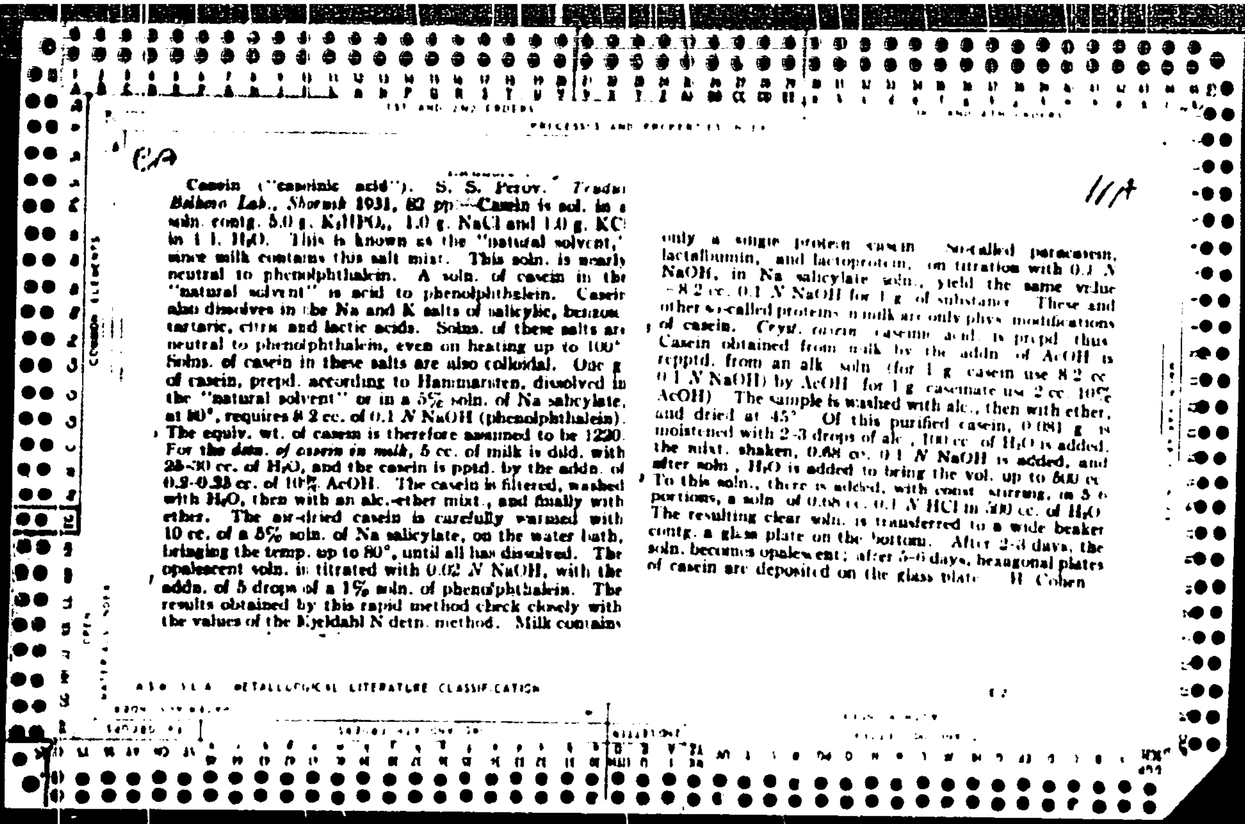
12

PROCESSES AND PROPERTIES INDEX

Electrical conductivity of milk and the external medium. S. S. Perov. *Trudui Vologodsk. Moloch Khoz. Inst.* (*Arb. Milchw. Inst. Wologda*) No. 72, 5-41(1928); Expt. Sta. Record 61, 700; cf. *Ibid.* No. 52, 30(1923).—A series of expts. was conducted to det. the various factors that influence the elec. cond. of milk. The cond. varies from a min. of 34 to a max. of 54. In general, the variance is greater between individuals than between herds of cattle. The sp. cond. of the milk of 6 cows was measured throughout the entire lactation period. The variations for the individuals did not exceed those of the combined milk from all the cows. The mean cond. of evening milking was slightly higher than that of morning milking, indicating a higher salt content in the evening milk. The milk from the various breeds of cattle studied also showed differences in cond. In general, low cond. is due to a large proportion of solids contg. no ash at an av. ash content or to a low ash content with an av. proportion of total solids. A high cond. is due to a reversal of the above factors.

B. C. K.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

CA

111A

Casein ("caseinic acid"). S. S. Petov. *Trudy Belkovo Lab., Sbornik* 1931, 82 pp.—Casein is sol. in a soln. contg. 5.0 g. K_2HPO_4, 1.0 g. NaCl and 1.0 g. KCl in 1 l. H_2O. This is known as the "natural solvent," since milk contains this salt mixt. This soln. is nearly neutral to phenolphthalein. A soln. of casein in the "natural solvent" is acid to phenolphthalein. Casein also dissolves in the Na and K salts of salicylic, benzoic, tartaric, citric and lactic acids. Solns. of these salts are neutral to phenolphthalein, even on heating up to 100°. Solns. of casein in these salts are also colloidal. One g. of casein, prepd. according to Hammarsten, dissolved in the "natural solvent" or in a 5% soln. of Na salicylate, at 80°, requires 8.2 cc. of 0.1 *N* NaOH (phenolphthalein). The equiv. wt. of casein is therefore assumed to be 1220. For the *detn. of casein in milk*, 5 cc. of milk is dild. with 25-30 cc. of H_2O, and the casein is pptd. by the addn. of 0.2-0.25 cc. of 10% AcOH. The casein is filtered, washed with H_2O, then with an alc.-ether mixt., and finally with ether. The air-dried casein is carefully warmed with 10 cc. of a 5% soln. of Na salicylate, on the water bath, bringing the temp. up to 80°, until all has dissolved. The opalescent soln. is titrated with 0.02 *N* NaOH, with the addn. of 5 drops of a 1% soln. of phenolphthalein. The results obtained by this rapid method check closely with the values of the Kjeldahl N detn. method. Milk contains only a single protein casein. So-called paracasein, lactalbumin, and lactoprotein, on titration with 0.1 *N* NaOH, in Na salicylate soln., yield the same value —8.2 cc. 0.1 *N* NaOH for 1 g. of substance. These and other so-called proteins in milk are only phys. modifications of casein. *Cryst. casein* (caseinic acid) is prepd. thus: Casein obtained from milk by the addn. of AcOH is repptd. from an alk. soln. (for 1 g. casein use 8.2 cc. 0.1 *N* NaOH) by AcOH (for 1 g. caseinate use 2 cc. 10% AcOH). The sample is washed with alc., then with ether, and dried at 45°. Of this purified casein, 0.081 g. is moistened with 2-3 drops of alc., 100 cc. of H_2O is added, the mixt. shaken, 0.68 cc. 0.1 *N* NaOH is added, and after soln., H_2O is added to bring the vol. up to 500 cc. To this soln., there is added, with const. stirring, in 5-6 portions, a soln. of 0.68 cc. 0.1 *N* HCl in 500 cc. of H_2O. The resulting clear soln. is transferred to a wide beaker contg. a glass plate on the bottom. After 2-3 days, the soln. becomes opalescent; after 5-6 days, hexagonal plates of casein are deposited on the glass plate. H. Cohen

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CA

11 A

Vegetable "proto acid. S. S. Perov and M. Lvitzuii. *Trudui Belkov. Lab.* [illegible] 1932, [illegible] pp.—Proteins are usually present in seeds in the form of Ca proteinate and adsorption compds. of these proteinates with Ca phosphate. A 2-3% soln. of AcOH decomps. these complexes and liberates the free protein. The seeds are then extd. with dil. NaOH, and the "proto acid" is pptd. with dil. AcOH. Thus, to prep. the "proto acid" of kidney beans, 50 g. of finely ground beans (*Phaseolus vulgaris*) is kept for 24 hrs. in 250 cc. of 0.1 N AcOH. The solid residue is filtered and washed with H_2O until free of AcOH. The washed residue is then allowed to stand for 2 days (with frequent stirring) in 250 cc. of 0.05 N NaOH. Dil. AcOH is added to the filtered alk. soln., and the "proto acid" is pptd. at pH 4.5. The filtered and washed proto acid is redissolved in 0.05 N NaOH (1 g. in 20 cc. 0.05 N soln.), and repptd. with AcOH. The procedure is repeated 6-10 times. The proto acid, after dehydration with alc., is obtained as snow-white powder, insol. in H_2O, sol. in solns. of NaCl and easily sol. in dil. alkali and acid. The proto acid is sol. in the "natural solvent" (cf. preceding abstr.), and in a soln. of Na salicylate. A 1% soln. in the "natural solvent" requires for neutralization 8.2 cc. 0.1 N NaOH (phenolphthalein). The proto acid is not coagulated when a soln. in the "natural solvent" is boiled; on the contrary, a rise in temp. increases the soly. The proto acid differs markedly from the "phaseolin" described by Osborne. If the beans are extd. with H_2O ("albumin") or with 10% NaCl ("globulin"), acidification of the ext. with dil. AcOH at pH 4.5 yields the same proto acid, as when the extn. is carried out with NaOH. Oats, peas, beans, wheat and almonds yield the same proto acid (1 g. of substance requires 8.2 cc. of 0.1 N NaOH). This proto acid is similar to "caseinic acid" (cf. *Ibid.*). Thus, 1% solns. of the "proto acid" of peas and casein possess the same elec. cond., η, viscosity and surface tension.

The "proto acid" of the field nut. V. Palmatov. *Trudui Lab. Izucheniya Belka Belkovogo Obmena Organizme* No. 4, 50-3(1933).—The kernels of the field nut (*Corylus avellana*) were freed from fat by extn. with ether. The "proto acid" was then extd. with NaOH, by Perov's method. This protein is similar to casein in that it possesses the same acidity (1 g. requires 8.2 cc. 0.1 N NaOH), N content (15.8), elec. cond., viscosity, surface tension and η (detd. in 1% soln.

The "proto acid" of fibrin. S. S. Perov. *Ibid.* No. 5, 30-54(1933).—P. criticizes the current classification of the blood proteins, which is based on the temp. of coagulation, and the salt concn. needed for their soln. or coagulation. Blood contains a "proto acid," which is similar to casein ("caseinic acid"). The differences observed in the blood proteins are ascribed to complexes consisting of the proto acid in a salt or ester union with other compds.

The identity of the racemization curves of some "proto acids." I. Leont'ev and K. Markova. *Ibid.* No. 7, 17-25(1933).—Every protein when dissolved in weak alkali possesses a definite speed of racemization

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which may be plotted on a curve. The "proto acids" of egg white, fibrin, casein, soybeans, peas and *Ph. vulg.* I have identical curves of racemization. These substances therefore yield the same "proto acid." **The "proto acid" of soybean (vegetable casein).** S. S. Perov, P. D'yachenko and K. Shelpakova. *Ibid.* 39-51.—The "proto acid" is prepd. by shaking for 5-6 hrs., 1 kg. of the fat-free, ground soybeans with 20 l. of a satd. soln. of Ca(OH)$_2$. The extn. is repeated. The "proto acid" is then pptd. by 3% AcOH at a p_H of 4.6-4.7, and is finally purified by several repptns. from dil. alkali. The "proto acid" has the same chem. compn. and physicochem. consts. as the casein of milk (including coagulation by rennin). **The "proto acid" of lupine.** S. S. Perov, P. D'yachenko and V. Svetlinova. *Ibid.* 52-4.—The proto acid was extd. with dil. NaOH (computed by taking 8.2 cc. 0.1 *N* NaOH for 1 g. of protein), and pptd. by 3% AcOH. In physicochem. properties, this "proto acid" does not differ from casein ("caseinic acid"). The "proto acid" of lupine may replace casein in the manuf. of glue and plastics. **The "proto acid" of egg white.** S. S. Perov. *Ibid.* 55-61.—The "proto acid" of egg white possesses the same chem. and physicochem. consts. as casein ("caseinic acid"). The method of prepn. consists in first dialyzing egg white for 5 days in running water. The clear liquid in the dialyzing tube is sepd. from the ppt. and is treated with NaOH to bring the concn. up to 1%. The mixt. is heated at 40° on the water bath for 2 hrs. The "proto acid" of egg white is pptd. by HCl at a p_H of 4.7. The product is purified by a tenfold repptn. from alkali with HCl at a p_H of 4.7. **The transformation of globulin into "proto acid."** P. D'yachenko. *Ibid.* 62-75.—The protein glycinin, prepd. from fat-free soybeans according to Osborne's method, is transformed into the "proto acid" thus: crude glycinin is suspended in H$_2$O, and KOH is added to bring the concn. up to 0.05 *N*. After complete soln., the "proto acid" is pptd. by 3% AcOH at a p_H of 4.6-4.7, and is purified by several pptns. from dil. alkali at a p_H of 4.7. This acid is identical with casein ("caseinic acid"). Both "proto acids" possess the same N content, titer, viscosity, surface tension, and elec. cond. H. Cohen

1ST AND 2ND ORDERS

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3RD AND 4TH ORDERS

CA

11F

Changes in the physicochemical constants of the hen-egg plasma on incubation. S. S. Perov and K. Dolinov. *Trudui Lab. Izucheniyu Belka Belkovogo Obmena Organizme* No. 3, 3-20(1932).—The elec. cond. of the white plasma changes from 76 × 10^{-4}, at the beginning of incubation, to 38 × 10^{-4}, on the 8th day of incubation; the cond. of the yellow plasma remains const., 23 × 10^{-4}. The cond. of the new, liquid plasma is 95 × 10^{-4}, and also remains unchanged on incubation. The *n* of the white plasma increases from 1.3551 to 1.3737 on the 4th day of incubation, to 1.3999 on the 8th and to 1.450 on the 13th. The *n* of the yellow plasma decreases from 1.4211 to 1.4126 on the 4th day, and to 1.4081 on the 8th. The *n* of the new plasma during incubation remains const. H. Cohen

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Bc

a-4

Structure of protein phases in plant substrata. S. S. Popov (Trud. Lab. Izuch. Belka Belkovogo Obmen. Organ., 1932, No. 3, 22–30).—The classification of proteins into globulins, albumins, etc. is criticised. Globulin from peas is an impure protoacid.

Ch. Abs. (p)

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"Anti-complex" of fibrin. S. S. Perov. *Trudui Lab. Izucheniyu Belka Belkovogo Obmena Organizme* No. 6, 3-22(1934); cf. Perov, *C. A.* 29, 6013^9.—The fibrin of blood is said to consist of the "proto acid" of fibrin in union with another protein (the "anticomplex"). The fibrin is decompd. by treatment with NaOH, the "proto acid" is pptd. at a *p*H of 4.7, the filtrate brought to a *p*H of 3.0 and the "anticomplex" pptd. by 5% phosphotungstic acid. From 500 g. of fibrin 1.5 g. of the "anticomplex" was obtained. The N content of the protein is 16.4%. A 1% soln. of the "anticomplex," in contrast to the complex—"fibrinic acid," possesses an extremely low viscosity. H. Cohen

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Mechanism of coagulation of proteins by tannic acid. S. S. Perov. *Trudui Lab. Izucheniya Belka Belkovog. Obmena Organizme* No. 7, 26-38(1935).—The pptn. of proteins by tannic acid is not a chem. process; i. e., there is no chem. union between protein and tannic acid. The tannic acid increases the H-ion concn., and at, or near the isoelec. point, the given protein ppts. out. Tannic acid, like any other mineral or org. acid, may, of course, be adsorbed by the pptd. protein. H. Cohen

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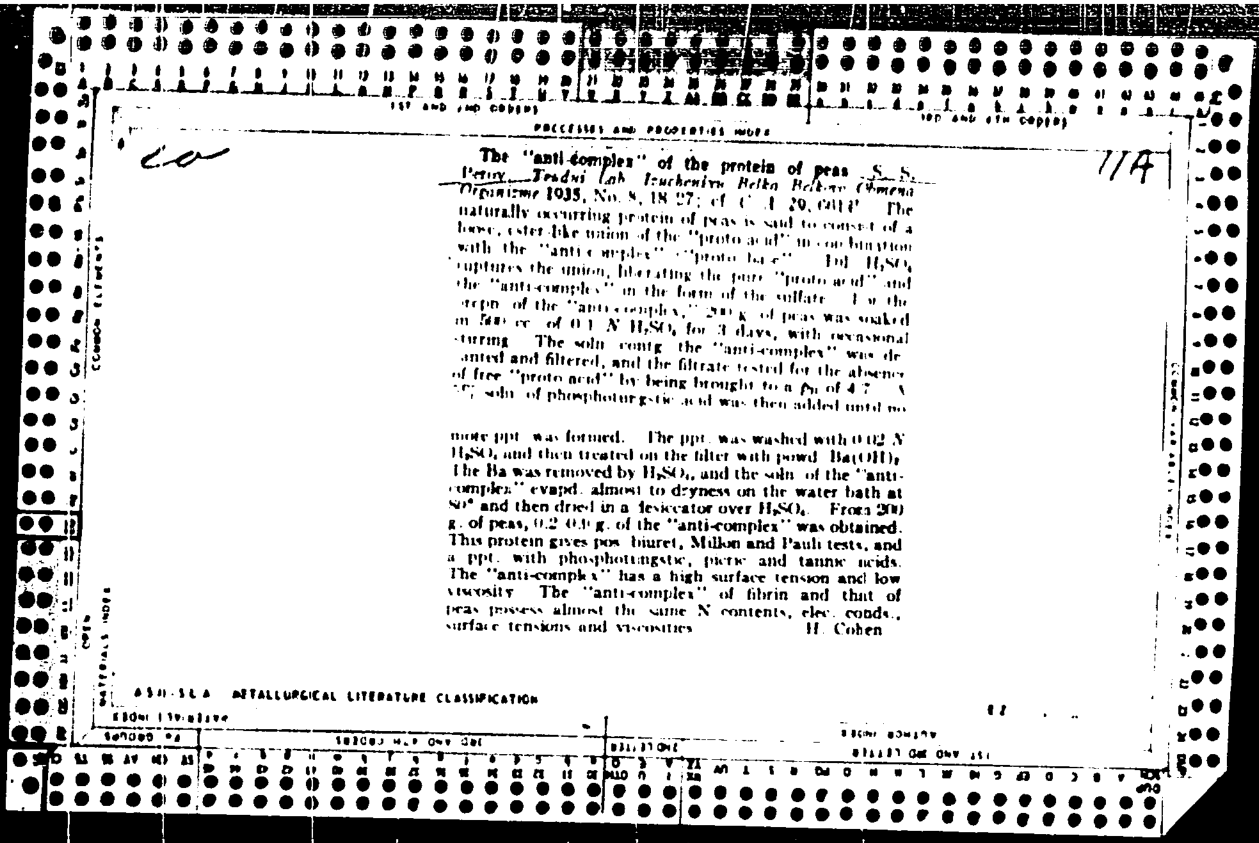

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Co

11A

The "anti-complex" of the protein of peas. S. S. Petrov. *Trudui Lab. Izucheniyu Belka Belkov. Obmena Organizme* 1935, No. 8, 18-27; cf. C. A. 29, 6914. The naturally occurring protein of peas is said to consist of a loose, ester-like union of the "proto acid" in combination with the "anti-complex" or "proto base." Dil. H_2SO_4 ruptures the union, liberating the pure "proto acid" and the "anti-complex" in the form of the sulfate. For the prepn. of the "anti-complex," 200 g. of peas was soaked in 500 cc. of 0.1 *N* H_2SO_4 for 3 days, with occasional stirring. The soln. contg. the "anti-complex" was decanted and filtered, and the filtrate tested for the absence of free "proto acid" by being brought to a p_H of 4.7. A 5% soln. of phosphotungstic acid was then added until no more ppt. was formed. The ppt. was washed with 0.02 *N* H_2SO_4 and then treated on the filter with powd. $Ba(OH)_2$. The Ba was removed by H_2SO_4, and the soln. of the "anti-complex" evapd. almost to dryness on the water bath at 80° and then dried in a desiccator over H_2SO_4. From 200 g. of peas, 0.2-0.3 g. of the "anti-complex" was obtained. This protein gives pos. biuret, Millon and Pauli tests, and a ppt. with phosphotungstic, picric and tannic acids. The "anti-complex" has a high surface tension and low viscosity. The "anti-complex" of fibrin and that of peas possess almost the same N contents, elec. conds., surface tensions and viscosities.

H. Cohen